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## TWO NEW SPECIES OF *ABRONIA* (SAURIA: ANGUIDAE) FROM THE CLOUD FORESTS OF EL SALVADOR

BY

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Lizards of the genus *Abronia* were discovered in the Salvadoran highlands for the first time in the course of a survey of the herpetofauna of El Salvador during the years 1977-1980. A study of all available material in collections from Guatemala was made to identify these specimens. Despite their affinity to the Guatemalan species, the Salvadoran specimens are readily distinguishable from them. I therefore consider them to be distinct species, as described below.

*ABRONIA SALVADORENSIS* new species

(Figure 1)

**Holotype.**—KU 184047, adult female, obtained at Cantón Palo Blanco, 10 km. NE Perquín, Cordillera de Nahuaterique, Departamento de Morazán, El Salvador, 1900 meters, by Hugo Hidalgo on 6 April 1979. (Original number HH 1116.)

**Diagnosis.**—An *Abronia* of the *aurita* group characterized by: 1) pterygoid teeth 3/3; 2) frontonasal present; 3) first superciliary separated from cantholorecal by median supraocular; 4) parietals separated from median supraoculars by fourth uppermost primary temporal; 5) supra-auricular scales not enlarged or slender but small and round; 6) four primary temporals; 7) occipital entire, not flanked by lateral occipitals; 8) four pairs of chin shields; 9) postmental entire; 10) anterior canthals present; 11) supranasals unexpanded; 12) ventrals in 14 longitudinal and 53 transverse rows of

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FIGURE 1. *Abronia salvadorensis*, female, holotype, SVL 80 mm, tail length 73.2 mm, KU 184047.

scales; 13) dorsals in 14 longitudinal and 31 transverse rows of scales; 14) lateral fold weakly developed, with no granular scales.

*Abronia salvadorensis* differs from *A. aurita* and *A. vasconcelosi* by having the first superciliary separated from the cantholoreal by the anterior median supraocular and by having a higher number of scales between eye and ear opening. The higher number of chin shields and longitudinal rows of ventral scales distinguishes this form from *A. montecristoi* (Table 1).

**Description of holotype.**—Head flattened at occipital region and moderately distinct from neck; rostral scale wider than high, separated from nasal by anterior internasals; four internasals, posterior pair somewhat larger than anterior; one frontonasal; anterior canthals present; two prefrontals, larger than frontonasal, in broad contact with frontal; frontal hexagonal and almost parallel-sided, in contact with interparietal posteriorly; parietals separated from median supraoculars by fourth uppermost primary temporal; 5 median and 3 lateral supraoculars on each side; 5 superciliaries on each side, anterior separated from cantholoreal by anterior median supraocular; occipital entire, not flanked by lateral occipitals. Nasal single; one supranasal on each side, unexpanded; two superimposed postnasals on each side; a loreal and a cantholoreal on each side; cantholoreal in contact with prefrontals and preoculars; 3 suboculars on each side, not reaching lowest primary temporal; 2 postoculars; 4 primary and 3 secondary temporals on each side, uppermost primary temporal in contact with frontoparietals and parietals; 2 primary temporals reaching orbit; supralabials 10/10, penultimate reaching orbit; infralabials 9/9. Mental wider than long; postmental unpaired, followed by 4 pairs of chin shields, first one in contact behind postmental; scales of sublabial series extending to second infralabial on both sides.

Dorsal scales in 14 longitudinal and 31 transverse rows; ventral scales in 14 longitudinal and 53 transverse rows; sides of neck with plate-like, overlapping scales; lateral fold scarcely discernible, with no granular scales, commencing behind insertion of forelimbs; supra-auricular scales not enlarged or slender but small and round; osteoderms well developed on head, poorly developed on neck and body; dorsal scales weakly keeled; posterior surfaces of limbs covered with small granular scales; 21 lamellae under right fourth toe and 19 under left fourth toe; claws half-sheathed and well developed on all digits. Minimum number nuchal scales in one transverse row 6, maximum 8.

**Color in preservative.**—Dorsum of head olive with brown flecks, snout dark bluish gray; neck olive; dorsum of body with 5 broad, olive, chevron-like transverse bands, with dark brown edges, darker on the sides; interspaces light bluish gray; 4 dark olive transverse bands on dorsum of anterior half of tail, each with

TABLE 1. Characteristics of the species of *Abronia* in Central America.

	<i>A. vasconcelosi</i>	<i>A. aurita</i>	<i>A. salbadorensis</i>	<i>A. montecristoi</i>
Frontonasal	present	present, rarely absent	present	present
First superciliary in contact with cantholoreal	yes	yes	no	yes
Parietals in contact with median supraoculars	yes or no	yes or no	no	no
Number of occipitals	1	1	1	5
Anterior canthals	present	present, rarely absent	present	present
Supralabials reaching orbit	penultimate, rarely antepenultimate	penultimate	penultimate	penultimate
Primary temporals	3 or 4	3 or 4	4	4
Temporals reaching postoculars	2	2	2	2

Number of scales between eye and ear opening	3/3	3/3	4/4	5/5
Long, supra-auricular scales	present, rarely absent	present	absent	absent
Postmental	single or divided	single or divided	single	single
Number of chin shields	3	3, rarely 4	5	4
Transverse rows of dorsal scales between occipital and base of tail	30.8 (30-33)	30.8 (29-33)	31	30
Ventral scales between postmental and vent	53.8 (52-56)	54.2 (50-61)	53	54
Longitudinal rows of dorsal scales	14	14	14	14
Longitudinal rows of ventral scales	14	14, rarely 16	14	12

dark brown edges, posterior portion dirt brown; sides of neck with a dark brown stripe from ear opening to above shoulder, bordered above by another, bluish gray stripe; scales on upper surfaces of limbs and feet brown with bluish gray margins; lower jaw bluish gray anteriorly, cream posteriorly; throat bluish gray, becoming darker posteriorly; undersurfaces of forelimbs cream; scales under hind limbs brown with light gray margins; base of feet light yellow; all digits with alternating rings of light cream and brown; venter bluish gray; undersurfaces of anterior half of tail gray, with incomplete brown bands, rest of tail cream.

**Color in life.**—Dorsum of head grayish cream, with numerous dark brown flecks; neck light brown; dorsum of body with 5 brown chevron-like transverse bands, dark brown at the edges, darker on the sides; interspaces between bands cream; dorsum of anterior half of tail with 4 broad transverse brown bands, dark at their edges, posterior half dark olive; sides of neck cream, with a dark brown stripe extending from ear opening to above shoulder, bordered above by cream; ventral surfaces of head, gular region, and throat grayish cream; venter cream; scales on dorsal and ventral surfaces of limbs brown, with cream margins; digits with alternating brown and cream rings, base of feet yellow; underside of anterior half of tail light gray, posterior half olive.

**Measurements of holotype (in mm).**—SVL 80; tail length 73.2, about half of tail regenerated; head length from tip of snout to posterior margin of ear opening 18.6; head width at level of occipital region 12.8; tip of snout to forelimb insertion 27.4; axilla-groin 14.8; right hind limb 26.8.

**Distribution.**—Known only from the type locality in the Cordillera de Nahuaterique of northeastern El Salvador (Fig. 3).

**Remarks.**—The female was collected during the day inside a bromeliad (*Vriesea*) rooted 3 meters above the ground on an oak tree (*Quercus*) in cloud forest (Subtropical Lower Montane Wet Forest formation of Holdridge, 1975). A salamander (*Bolitoglossa dunni*) was found inside the same plant.

**Etymology.**—The specific name refers to the country of El Salvador, where the holotype was found.

#### *ABRONIA MONTECRISTOI* new species

(Figure 2)

**Holotype.**—KU 184046, adult male, obtained at Hacienda Montecristo, Metapán, Cordillera de Alotepèque-Metapán, Departamento de Santa Ana, El Salvador, 2250 meters, by members of a scientific expedition of the Instituto Tropical de Investigaciones Científicas on 26 July 1957. (Original number IHH 1115.)

**Diagnosis.**—An *Abronia* of the *aurita* group characterized by:

1) pterygoid teeth absent; 2) frontonasal present; 3) first superciliary in broad contact with cantholoreal; 4) parietals separated from median supraoculars by fourth uppermost primary temporal; 5) supra-auricular scales not enlarged or slender but small and round; 6) four primary temporals; 7) occipital flanked by lateral occipitals; 8) 3 pairs of chin shields; 9) postmental unpaired; 10) anterior canthals present; 11) supranasals unexpanded; 12) ventrals in 12 longitudinal and 54 transverse rows of scales; 13) dorsals in 14 longitudinal and 30 transverse rows of scales; 14) lateral fold weakly developed, with no granular scales.

*A. montecristoi* is distinguished from all other species in the *aurita* group on the basis of its divided occipital scales and its lower count of longitudinal rows of ventral scales (Table 1). *Abronia montecristoi* differs from *A. vasconcelosi* by having 12 longitudinal rows of ventral scales. *A. montecristoi* can be distinguished from *A. aurita* by the lack of long, supra-auricular scales; and from *A. salvadorensis* by having a lower number of chin shields and longitudinal rows of ventral scales and by having a contact of the first superciliary with the cantholoreal.

**Description of holotype.**—Head flattened and noticeably distinct

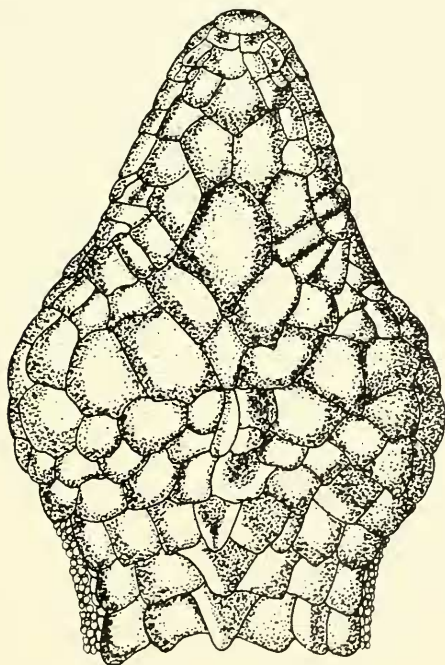


FIGURE 2. *Abronia montecristoi*, male, holotype, SVL 90 mm, tail length 127 mm, KU 184046.

from neck; rostral wider than high and separated from nasal by anterior internasals; four internasals, posterior pair almost twice size of anterior; one frontonasal; anterior canthals present; two prefrontals, in broad contact with cantholoreal; frontal wider posteriorly than anteriorly, in narrow contact with interparietal; occipital flanked by lateral occipitals; parietals separated from median supraoculars by fourth uppermost primary temporal; 5 median and 3 lateral supraoculars on each side; 7 superciliaries on right, 5 on left, anterior in broad contact with cantholoreal. Nasal single; one supranasal on left, none on right, unexpanded; two superimposed postnasals on each side; a loreal and a cantholoreal on each side; cantholoreal in broad contact with prefrontals; 3 suboculars on right, 2 on left, not reaching lowest primary temporal; 4 postoculars on each side; 4 primary and 3-4 secondary temporals, uppermost primary temporal in contact with frontoparietals and parietals; 2 primary temporals reaching orbit; supralabials 9/9, penultimate reaching orbit; infralabials 9/9. Mental wider than long; postmental unpaired, followed by 3 pairs of chin shields, first in contact behind postmental; scales of sublabial series extending to second infralabial on both sides.

Dorsal scales in 14 longitudinal and 30 transverse rows; ventral scales in 12 longitudinal and 54 transverse rows; sides of neck with round scales; supra-auricular scales not enlarged or slender but small and round; osteoderms well developed on head and neck, present on body and anterior half of tail; dorsal scales weakly keeled; lateral fold with no granular scales, commencing behind insertion of forelimbs; posterior surfaces of limbs covered with small granular scales; 21 lamellae under both right and left fourth toes; claws half-sheathed and well developed on all digits. Minimum number of nuchal scales in one transverse row 6, maximum 8.

**Color in preservative.**—Dorsal surfaces olive gray, darker on head, neck and anterior portion of body; sides of head, neck, infralabials, chin shields, gular region and chest creamish gray; venter gray; undersides of limbs and ventral surface of tail light gray.

**Measurements of holotype (in mm).**—SVL 90; tail length 127; head length from tip of snout to posterior margin of ear opening 18.6; head width at level of occipital region 18.7; tip of snout to forelimb insertion 34.5; axilla-groin 46; right forelimb 27; right hind limb 35.

**Distribution.**—Known only from the type locality in the Cordillera de Alotepeque-Metapán of northwestern El Salvador (Fig. 3).

**Remarks.**—Data accompanying the holotype include information only that it came from a cloud forest at an elevation of 2250 meters. This area falls within the Subtropical Lower Montane Wet Forest formation of Holdridge (1975). The type locality for this form is ca. 143 airline km separated from that of *A. salva-*



*dorensis*; both localities are separated by elevations ranging from 100 to 1000 meters of Subtropical Moist Forest formations (Holdridge, 1975).

**Etymology.**—The specific name is a noun in the genitive case and refers to the type locality, Hacienda Montecristo in El Salvador.

#### KEY TO SPECIES OF *ABRONIA* IN EL SALVADOR

- 1 A. First superciliary separated from the cantholoreal by the anterior median supraocular; ventral scales in 14 longitudinal rows; occipital not divided ..... *A. salvadorensis*
- B. First superciliary in broad contact with the cantholoreal; ventral scales in 12 longitudinal rows; occipital flanked by lateral occipitals ..... *A. montecristoi*

#### SUMMARY

Two new species of *Abronia* of the *aurita* group are described from the cloud forests of El Salvador, extending the known range of the genus south of Guatemala.

#### RESUMEN

Se describen dos nuevas especies de lagartijas del género *Abronia* (SAURIA: ANGUIDAE) de los bosques nebulosos de El

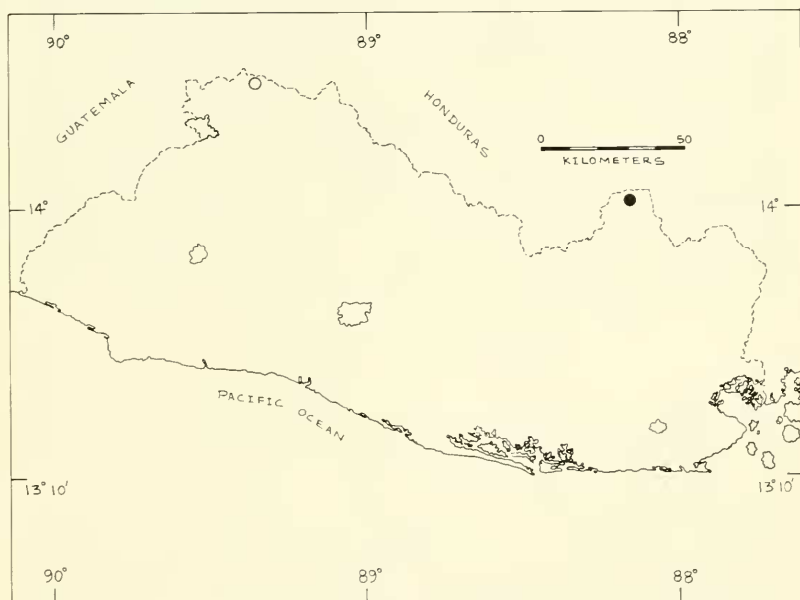


FIGURE 3. Distribution of *Abronia salvadorensis* (dot) and *A. montecristoi* (circle).

Salvador. *A. salvadorensis* proviene del Cantón Palo Blanco, en la Cordillera de Nahuaterique en la región nororiental; *A. montecristoi* fue encontrada en la Hacienda de Montecristo, en la Cordillera de Alotepeque-Metapán en la región noroccidental. El hallazgo de *Abronia* en El Salvador constituye el primer registro para este país, además de ser la primera vez que se reporta al sur de Guatemala, en América Central.

### RÉSUMÉ

Deux nouvelles espèces de lézards du genre *Abronia* (SAURIA: ANGUIDAE) se rapportons ici. Ces Sauriens provenant de les hautes terres du El Salvador dans L'Amérique Centrale.

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### SPECIMENS EXAMINED

In addition to the types of the new species described above, all the material examined during the preparation of this paper came from Guatemala, as follows:

*Abronia aurita*: MNHP 1189, 1189A, 1189B, Alta Verapaz (syn-types of *A. fimbriata*). MVZ 143461, Baja Verapaz, near Chilasco; 144537, Baja Verapaz, 4 km ENE Chilasco, 2000m; 160608, Baja Verapaz, Finca San Jorge, 5 km ENE Chilasco, 2000m; 160609, Baja Verapaz, Finca Miranda, 8 km ESE Chilasco, 2000-2200m. USNM 6769, Verapaz (holotype of *A. aurita*).

*Abronia vasconcelosi*: AMNH 102177, 109053-54, 4 miles N Escuintla, at Finca Rosario Vista Hermosa, ca. 2000m. LACM 75514, San Marcos, 5.5 km W of S San Marcos, 2630m. MNIIP 2017, Argueta, Verapaz (holotype of *A. vasconcelosi*).

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